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A CHRONOLOGICAL AUTOMATON:

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Self-moving *EPHEMERIS* of the Cælestial Motions, &c.

Invented and made by SAMUEL WATSON of COVENTRY, Watch-Maker.

**W**HEREAS there are Two Eminent Hypotheses, whereby to solve the Motions of the Heavens; whereof the one seems principally to intend their Appearances to our Eyes here on this Globe of Earth; The other, to regard only how they are in Nature, or the general System of the World. This *Ephemeris* is adapted to Represent the former of these. For the more exact performance whereof, in the Front of the Work (*which is a Square of 20 Inches broad*) there are placed Four larger Dial-Plates, and one less in the Middle.

*First Plate.* In the Circumference of the first and principal Plate, are placed the Degrees of Terrestrial Longitude, and the Twenty Four Hours of the Natural Day; Adjoyning hereto are fixed, on the Eastern and Western Sides, Two Laminæ shewing the Rising and Setting of the Cælestial Signs and Planets, and the Ark they make above or below the *Horizon*.

Within these are placed on an Orb of Silver (of which Matter the fore-mentioned parts are likewise) the Twelve Artificial Signs of the *Zodiack*, with their Degrees computed from the *Vernal Equinox*; and within this, on an Azure-coloured Orb (such as all the following Orbs of this Plate are) is shewn the difference between the Natural and Artificial Signs, the Signs being here Represented as they are Computed from the first Star of *Aries*; and the principal fixed Stars in and about the *Zodiack* are depicted hereon: these have a Diurnal Motion. And though the designed Brevity of this Description will not admit that an Account should be given of the accurate Care that was taken in every part of this Work, yet as a Specimen it may be observed, that whereas the Artificial and Natural Signs have a difference of Motion, amounting to about one Degree in the space of a Hundred Years, (which some attribute to the Motion of the fixed Stars, others to the *Præcession* of the *Equinox*) this difference is likewise in the Work.

Within these are Represented the Planets *Saturn*, *Jupiter*, *Mars*, *Sol*, *Venus* and *Mercury*; having their *Astronomical* Characters affixt to them in several Orbs; shewing not only their Diurnal and Middle, but also their other proper Motions, whether they be Direct, Stationary, or Retrograde; their Apogæons, Perigæons, Elongations, and Aspects, &c.

*Second Plate.* In the Second Plate are Represented the Phænomena of the Moon, for which purpose there are placed the Terrestrial Longitude, the Hours of the Natural Day, and the two Laminæ for the Rising and Setting of the Stars, and also the Artificial Signs of the *Zodiack*, as in the first.

Within are placed in their proper Longitude several other remarkable Stars, which are more remote from the Ecliptick than those in the former Table. Next to these is placed the Sun in his Orb, the better to shew his Aspects with the Moon: And then follow Two Circles, the one Representing the Ecliptick, the other the Orb of the Moon; and both together shewing the Lunar Nodes and Latitude: And within these is a Figure of the Moon, having the Hemisphere next the Sun illuminated, shewing her Diurnal, Middle, and other proper Motions; her Apogæon, and Perigæon, &c.

By these Plates may be known also when any Eclipse happens, what part of the Earth it is visible in, its duration, and whether it be total or partial. But to represent all the Uses and Speculations which they are serviceable to, would require a just Treatise, and therefore is not to be attempted in this short Paper.

*The Third Plate* shews the Epact, the Golden Number, and the Indiction: And

*The Fourth Plate* shews the Dominical Letter, and the Cycle of the Sun, as also the Day of the Month throughout the Year, without any Alteration of the *Index* in Leap-Year; the Day of the Week, with its Primary Planet; and the Hour of the Day and Night, Computed from Twelve to Twelve.

The Golden Number, the Cycle of the Sun, and the Indiction, are the Characteristicks of the *Julian Period*, and are never the same in the space of 7980 Years.

It is to be noted, That the Machine need be wound up but once in Eight Days: And if at any time it happen, by neglect of drawing up, to stand still, it is easily set to the present time; for the whole is so contrived, that by the help of a Key it is moveable for any Number of Months or Years, either backward or forward, presenting to the Eye the fore-mentioned Phænomena hapning in that space of time: And then being returned to the present Year, Month, Day, and Hour keeps the time for the future; so that by one Motion the whole is set right.

Note likewise, That the Work is so Composed, that the Author can easily adapt it to any Longitude and Latitude whatsoever.

*The Print of this Clock, with the Explanation of it on each side, is to be sold at the Two Famous Universities of Oxford and Cambridge, and the City of Coventry, as also at London, by Ralph Simpson, in St. Paul's Church-Yard, and Timothy Goodwyn, at the Maiden-Head against St. Dunstan's Church in Fleetstreet, Booksellers.*